

ANTIBIOGRAM FOR SELECT BACTERIA OF PUBLIC HEALTH AND CLINICAL IMPORTANCE ISOLATED BY CLINICAL LABORATORIES MONTANA, 2006

Laboratories from across the state of Montana provided aggregate antimicrobial susceptibility data (antibiogram) from testing performed January 1, 2006 through December 31, 2006 to the Montana Department of Public Health and Human Services (DPHHS) in response to the DPHHS 2007 Antimicrobial Susceptibility Testing Survey. The Survey is conducted annually by the Montana Antimicrobial Resistance Awareness Program and the National Laboratory System (NLS) Initiative to Integrate Clinical Laboratories into Public Health Testing. The primary goal of the NLS Initiative is to enhance testing and reporting practices of antimicrobial susceptibility testing (AST) and sexually transmitted diseases from rural clinical laboratories and laboratories providing services in Montana, North Dakota, South Dakota, and Wyoming. The objectives for and activities funded by the NLS Initiative will increase the knowledge base of clinical laboratory professionals while improving their ability to conduct public health-related testing and reporting in these frontier states.

All laboratories in Montana that conduct AST are invited to participate in the Survey. In 2007, the Survey was sent to 60 laboratories; 38 (63%) returned all or a portion of the survey. Of the 38 responding laboratories, 25 (66% of respondents; 42% of all labs) provided antibiogram data. All of the large capacity laboratories in the state responded with antibiogram data.

The results of the Survey were aggregated to create a statewide antibiogram using the methodology described by the Centers for Disease Control and Prevention entitled "Antibiogram Surveillance Method Using Cumulative Susceptibility Data". The resulting community-level antibiogram is presented to provide Montana clinicians and public health practitioners with data to track antimicrobial susceptibility patterns, raise awareness of antimicrobial resistance, and to identify opportunities to reduce inappropriate antimicrobial usage and evaluate the success of those efforts. These data are for surveillance purposes and represent the results of individual cultures, not patient infections. *Therefore, these data should not be used in making decisions regarding antimicrobial therapy for individual patients.*

The tables below summarize the susceptibility patterns for select bacteria of public health and clinical importance. Tables that include isolates from "all sources" include isolates from all *patient* sources; laboratories were asked to exclude multiple isolates from the same patient as well as isolates from surveillance cultures, environmental cultures, and other non-patient sources. Laboratories were also asked to report separately, if possible, the susceptibilities for select bacteria isolated from urine only. The final table in the report summarizes the available susceptibility patterns for isolates from urine.

For more information, including a complete description of the DPHHS Antimicrobial Susceptibility Testing Survey, refer to the Montana Antimicrobial Resistance Awareness Program web site at <http://mara.mt.gov> or the National Laboratory System Initiative to Integrate Clinical Laboratories Into Public Health Testing website at <http://www.dphhs.mt.gov/PHSD/Lab/nat-lab-sys/nat-laboratory-systems-index.shtml>.



www.mara.mt.gov
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GRAM-NEGATIVE	PERCENT SUSCEPTIBLE																		
	Number of isolates tested and reported	Cephalosporins						Aminoglycosides			CBPs		Quinolones		Penicillins			SUL	TET
		Cefazolin	Cefuroxime	Cefotaxime	Ceftazidime	Ceftriaxone	Cefepime	Amikacin	Gentamicin	Tobramycin	Aztreonam	Imipenem	Meropenem	Ciprofloxacin	Levofloxacin	Ampicillin	Ampicillin/sulbactam	Piperacillin / tazobactam	Trimethoprim - sulfamethoxazole
2006 Isolates																			
All Sources																			
<i>Escherichia coli</i>	15411	95	92	100	99	99	100	100	96	96	99	100	100	93	93	63	71	98	84
<i>Klebsiella pneumoniae</i>	2912	97	93	98	98	98	99	100	99	99	98	100	100	98	98		90	95	96
<i>Proteus mirabilis</i>	1052	95	98	99	99	99	99	99	95	94	99	92	100	88	93	85	92	99	85
<i>Pseudomonas aeruginosa</i>	2225			12	89	26	89	94	82	95	71	89	95	75	78			97	

GRAM-POSITIVE	PERCENT SUSCEPTIBLE													
	Number of isolates tested and reported	Cephalosporins			Quinolones		Other				Penicillins		SUL	TET
		Cefazolin	Cefuroxime	Cefotaxime	Ciprofloxacin	Levofloxacin	Erythromycin	Clindamycin	Vancomycin	Linezolid	Quinupristin - dalfopristin	Oxacillin	Penicillin	Trimethoprim - sulfamethoxazole
2006 Isolates														
All Sources														
<i>Enterococcus species</i>	718				71	69			98	96			97	40
<i>Enterococcus faecalis</i>	2476				64	69			99	96			98	30
<i>Enterococcus faecium</i>	262					19			79	98	92		23	75
<i>Staphylococcus aureus</i>	8816	53	65		69	70	46	73	100	100	100	60	8	95
<i>Streptococcus pneumoniae</i>	639		84	95		100	63	46	100	100			68	86

**Enterococcus* species includes all *Enterococci* isolates for labs that do not report results for individual *Enterococci* species. Species-specific data is represented where possible; non -*faecalis* and -*faecium* species were included in the *E. species* category.

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Data collection: 1-1-06 through 12-31-2006
Reported: February, 2008

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URINE ISOLATES ONLY											
GRAM-NEGATIVE 2006 Isolates	PERCENT SUSCEPTIBLE						GRAM-POSITIVE 2006 Isolates	PERCENT SUSCEPTIBLE			
	Number of isolates tested and reported	Ciprofloxacin	Levofloxacin	Norfloxacin	Tetracycline			Nitrofurantoin	Number of isolates tested and reported	Tetracycline	Nitrofurantoin
Escherichia coli	4495	93	95	94	82	98	Enterococcus species*	233	22	99	
Klebsiella pneumoniae	778	97	97	99	91	71	Enterococcus faecalis*	330	32	99	
Proteus mirabilis	242	89	88	95			Enterococcus faecium*	22	59	73	
Pseudomonas aeruginosa	289	66	67	80			Staphylococcus aureus	227	93	95	

**Enterococcus species* includes all *Enterococci* isolates for labs that do not report results for individual *Enterococci* species. Species-specific data is represented where possible; non -*faecalis* and -*faecium* species were included in the *E. species* category.

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